



**Technical Committee 184: Industrial automation systems and integration**  
**Subcommittee 4: Industrial data**

**TC 184/SC4 N0964**

**December 15, 1999**

**ISO MAIL Ballot Results**  
**for**  
**Guidelines for the development of abstract test suites, edition 2**

The ballot was circulated among SC4 members for its vote on 1999-09-03. 8 of our 17 P-members responded to the ballot:

<b>COUNTRY</b>	<b>VOTE</b>	<b>COMMENTS</b>
Australia	Y	
Canada		
China		
France	Y	Attached
Germany		
Italy		
Japan		
Korea, Rep. Of	Y	
Netherlands	Y	
Norway		
Portugal	A	
Russia		
Spain		
Sweden		
Switzerland	A	
United Kingdom	Y	Attached
United States	Y	

The SC4 Secretary has reviewed the ballot responses and in consultation with the Chair has decided that the ballot has passed.

This document is also available digitally through SOLIS via ftp or at <http://www.nist.gov/sc4/ndocs/n964>

**Address reply to:**

ISO TC 184/SC4 Secretariat  
National Institute of Standards and Technology  
Building 220, Room A127  
Gaithersburg, MD 20899 USA  
Phone: +1-301-975-4375    Telefax: +1-301-975-4694  
Email: [sc4sec@cme.nist.gov](mailto:sc4sec@cme.nist.gov)  
url - <http://www.nist.gov/sc4/>

## Ballot Comments

### NOTE:

Some of these comment may have been scanned using Optical Character Recognition and have not been verified as 100% accurate. Please refer to the original hard copy in cases of irregularities.

### France

Guidelines for the development of abstract test suites, ed. 2

FRANCE approves the document with the comment herewith.

Contributor:

Christophe VIEL

GOSET

107-111, av. Georges Clemenceau

92000 NANTERRE

FRANCE

tel: + 33 1 47 25 22 22

Fax: + 33 1 47 21 51 44

E-Mail : cviel@club-internet.fr

Comment FR1:

Page 8, last sentence

The sentence is ambiguous: the concept of "initial draft" contradict the idea of "complete ATS"

Proposed solution:

Replace the sentence by a reference to the SC 4 resolution specifying what is exactly requested.

### United Kingdom

#### 1. INTRODUCTION

This document presents the UK vote, comments and recommendations on the Guidelines for the development of abstract test suites, Edition 2.

#### 2. VOTING RESPONSE

The UK votes APPROVAL of the Guidelines for the development of abstract test suites, with the following comments, Edition 2:

#### 3. COMMENTS

ISSUE NUMBER UK-ATS2-01

AUTHOR: Julian Fowler

CLAUSE: general

CLASSIFICATION: Editorial

DESCRIPTION:

Several aspects of the document need to be updated to match latest SDs and applicable QC practice for Standing Documents. This includes formatting and layout of notes/examples, use of "may" (permission) vs. "can" (possibility).

ISSUE NUMBER UK-ATS2-02

AUTHOR: Julian Fowler

CLAUSE: Introduction

CLASSIFICATION: Major Technical

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ISO TC 184/SC4 Secretariat

National Institute of Standards and Technology

Building 220, Room A127

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**DESCRIPTION:**

The Introduction should state the major changes since the first edition of the document.

**ISSUE NUMBER** UK-ATS2-03

**AUTHOR:** Julian Fowler

**CLAUSE:** n/a

**CLASSIFICATION:** Major Technical

**DESCRIPTION:**

In order to conform to the requirements of the SC4 Handbook, there should be an additional Annex to this document that lists the ATS parts/projects to which this edition is applicable, and those to which the first edition requirements still apply.

**ISSUE NUMBER** UK-ATS2-04

**AUTHOR:** Julian Fowler

**CLAUSE:** 1

**CLASSIFICATION:** Editorial

**DESCRIPTION:**

The first sentence combines two separate aspects of the scope of this document.

**PROPOSED RESOLUTION:**

Separate as follows: "This standing document specifies the required content of ISO 10303 abstract test suites. It also specifies the methods and procedures that SC4 projects follow to develop abstract test suites."

**ISSUE NUMBER** UK-ATS2-05

**AUTHOR:** Julian Fowler

**CLAUSE:** 1

**CLASSIFICATION:** Editorial

**DESCRIPTION:**

The second sentence of the scope is true but is not of primary importance to the scope of this document.

**PROPOSED RESOLUTION:**

Reword as a NOTE.

**ISSUE NUMBER** UK-ATS2-06

**AUTHOR:** Julian Fowler

**CLAUSE:** 2

**CLASSIFICATION:** Minor Technical

**DESCRIPTION:**

The format of the reference to ISO 10303-34 is incorrect.

**PROPOSED RESOLUTION:**

Add a colon and an emdash (long dash) between "34" and the footnote marker.

**ISSUE NUMBER** UK-ATS2-07

**AUTHOR:** Julian Fowler

**CLAUSE:** 2

**CLASSIFICATION:** Editorial

**DESCRIPTION:**

Reference to second edition SDs is incorrect (SC4 N858 is the version distributed for P-member ballot, not the approved version).

**PROPOSED RESOLUTION:**

The exact format of "normative" references to standing documents has to be discussed and agreed by the QC. However, the reference here should be similar to that for "to be published" standards. N858 should be listed in the Bibliography.

**ISSUE NUMBER** UK-ATS2-08

**AUTHOR:** Julian Fowler

**Cause:** 3

**CLASSIFICATION:** Editorial

**DESCRIPTION:**

Repetition of definitions from SC4 standards is unnecessary.

**PROPOSED RESOLUTION:**

Replace all the repeated definitions in 3.1.x, 3.2.x, etc. by bulleted lists of the terms whose definitions are given in Part 1, Part 31, etc.

**ISSUE NUMBER** UK-ATS2-09

**AUTHOR:** Julian Fowler

**CLAUSE:** 4

**CLASSIFICATION:** Major Technical

**DESCRIPTION:**

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National Institute of Standards and Technology

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Why is this the first normative (non-boilerplate) clause of the document. This is useful information to the reader, but does not address the main scope or focus of these guidelines.

**PROPOSED RESOLUTION:**

Move all of clause 4 to an informative annex.

**ISSUE NUMBER** UK-ATS2-10

**AUTHOR:** Julian Fowler

**CLAUSE:** 4

**CLASSIFICATION:** Major Technical

**DESCRIPTION:**

The exclusion of syntax and structural testing for postprocessors seems to be a major limitation on the applicability of conformance testing. I had always envisioned three levels of post-processor testing, answering the questions: 1. Can the postprocessor process Part 21 files? This would include testing the response of the response of the postprocessor to non-Part 21 files, and Part 21 files that include syntax errors. 2. Can the processor process Part 21 files that conform to the schema of interest? This would include testing the postprocessor with syntactically valid Part 21 files that conform to a different schema, and with syntactically valid Part 21 files that are incorrect with respect to the structure of the schema of interest. 3. Semantic testing, as described here.

**PROPOSED RESOLUTION:**

Resolution to this issue may have to be addressed in Part 3x (31?), in which case transferring this issue to the SEDS process would be appropriate.

**ISSUE NUMBER** UK-ATS2-11

**AUTHOR:** Julian Fowler

**CLAUSE:** 5

**CLASSIFICATION:** Editorial

**DESCRIPTION:**

First sentence - spelling of "program" is incorrect.

**PROPOSED RESOLUTION:**

Correct spelling according to COED is "programme".

**ISSUE NUMBER** UK-ATS2-12

**AUTHOR:** Julian Fowler

**CLAUSE:** general

**CLASSIFICATION:** Editorial

**DESCRIPTION:**

Use of conventional "ISO-speak" wording (passive voice) can make it difficult to determine to whom the requirements of this document apply,

**PROPOSED RESOLUTION:**

Consider rewording in active voice. For example, in clause 5, second paragraph: "The project responsible for development of an AP is also responsible for the development of the companion ATS. The project develops the content of the ATS in parallel with the development of the AP."

**ISSUE NUMBER** UK-ATS2-13

**AUTHOR:** Julian Fowler

**CLAUSE:** 5

**CLASSIFICATION:** Minor Technical

**DESCRIPTION:**

Last paragraph of page 5 - this requirement really belongs in the SC4 Handbook. Also, what is the implication for an AP that achieves a 100% positive vote at DIS, and therefore has no FDIS ballot?

**PROPOSED RESOLUTION:**

Move this requirement to the SC4 Handbook (SC4 resolution to change - advance resolution for Bordeaux).

Change the dependency such that the ATS document should be balloted (PDTS) either in parallel with the DIS of the AP, or such that a final decision on the result of the AP's DIS ballot can be assessed only after balloting of the ATS.

**ISSUE NUMBER** UK-ATS2-14

**AUTHOR:** Julian Fowler

**CLAUSE:** 5

**CLASSIFICATION:** Editorial

**DESCRIPTION:**

The text referring to Figure 2 refers to the diagram as being "below", but actually follows the Figure!

**PROPOSED RESOLUTION:**

Change "below" to "in Figure 2".

**ISSUE NUMBER** UK-ATS2-15

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National Institute of Standards and Technology

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AUTHOR: Julian Fowler

CLAUSE: 5

CLASSIFICATION: Major Technical

DESCRIPTION:

Point a) at the top of page 10 - this is the first time that the subjective notions of "importance" and "relevance" have been introduced. We need some metrics here - what is the significance of importance/relevance to the final content of the test suite? How are these assessed?

PROPOSED RESOLUTION:

There should be a reference here to the test suite being rooted in usage scenarios and sample test data taken from real industry applications. Data elements within the scope of the AP are then "important" because of their occurrence in "real" data.

ISSUE NUMBER UK-ATS2-16

AUTHOR: Julian Fowler

CLAUSE: 5

CLASSIFICATION: Major Technical

DESCRIPTION:

Point (g) on page 10 - notions of adequacy of coverage need to be driven by industry needs, not an arbitrary 100% coverage requirement. Some APs include conformance classes that are not likely to be implementable for several years, and sample data within these conformance classes is therefore likely to be difficult to obtain. Also, the publication of abstract test suites as Technical Specifications opens up the possibility of different metrics being applied to TS (which have a maximum life of six years) and IS.

PROPOSED RESOLUTION:

Revise the coverage requirements so that for TS publication an ATS needs to have 100% application object coverage for at least one conformance class. The current 100% of all application objects should apply only to ATS documents that are "elevated" to IS status.

ISSUE NUMBER UK-ATS2-17

AUTHOR: Julian Fowler

CLAUSE: 6.1

CLASSIFICATION: Minor Technical

DESCRIPTION:

Most of the second paragraph is self-justifying with respect to the latest revisions of the document, rather than supplying the necessary methods/procedures for application element test purpose development or documentation.

PROPOSED RESOLUTION:

Move most of this paragraph to the Introduction.

ISSUE NUMBER UK-ATS2-18

AUTHOR: Julian Fowler

CLAUSE: 6.2 (and others)

CLASSIFICATION: Minor Technical

DESCRIPTION:

That does it mean to "implicitly derive" test purposes? The intention here, I think, is to state that the test purposes are not explicitly documented, but can be derived directly from the AP requirements.

PROPOSED RESOLUTION:

Reword accordingly.

ISSUE NUMBER UK-ATS2-19

AUTHOR: Julian Fowler

CLAUSE: 6.2

CLASSIFICATION: Editorial

DESCRIPTION:

The second paragraph implies that permission is granted ("may") to use AIM test purposes to validate AIM of the AP.

PROPOSED RESOLUTION:

Change to "can", i.e., that it is possible to use AIM test purposes in this way.

ISSUE NUMBER UK-ATS2-20

AUTHOR: Julian Fowler

CLAUSE: 6.2

CLASSIFICATION: Editorial

DESCRIPTION:

Penultimate paragraph on page 12 - what does it mean to "physically accept inputs"?

PROPOSED RESOLUTION:

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Delete the word "physically".

ISSUE NUMBER UK-ATS2-21

AUTHOR: Julian Fowler

CLAUSE: 6.3.1

CLASSIFICATION: Minor Technical

DESCRIPTION:

The example test purpose here seems to add/change requirements, by imposing a cardinality constraint.

PROPOSED RESOLUTION:

This form of test purpose needs to be clearly stated as specifying a population of the AP, e.g., in this case "An organization that has responsibility for ..".

ISSUE NUMBER UK-ATS2-22

AUTHOR: Julian Fowler

CLAUSE: 8

CLASSIFICATION: Major Technical

DESCRIPTION:

The discussion of the origin of test cases needs to place more emphasis on developing test cases that exploit "real world" data sets taken from industrial applications/databases. Otherwise there is a danger that the AP/ATS team "invents" test data that satisfies the AP but has no correspondence to actual usage or practice.

ISSUE NUMBER UK-ATS2-23

AUTHOR: Julian Fowler

CLAUSE: 8.3.2.3 (and others)

CLASSIFICATION: Minor Technical

DESCRIPTION:

There are still some formatting/presentation requirements in the main body of the document, e.g., last sentence of page 19.

PROPOSED RESOLUTION:

Move such requirements to the SDs.

ISSUE NUMBER UK-ATS2-24

AUTHOR: Julian Fowler

CLAUSE: 8.3.2.3

CLASSIFICATION: Minor Technical

DESCRIPTION:

(Annex D/SDs issue): Need to clarify the use of double-line separators in the test case tables. The SDs imply that use of double lines is limited to the separator between table header/column titles and the content of a table.

PROPOSED RESOLUTION:

ISSUE NUMBER UK-ATS2-25

AUTHOR: Julian Fowler

CLAUSE: 8.3.2.3

CLASSIFICATION: Editorial

DESCRIPTION:

The example table on page 20/21 is split across a page break, but does not follow IDP3/SDs requirements for multi-page tables.

PROPOSED RESOLUTION:

Reformat document so that this example fits on one page. Add an example of a multi (3+) page table to Annex D/SDs.

ISSUE NUMBER UK-ATS2-26

AUTHOR: Julian Fowler

CLAUSE: 9.1

CLASSIFICATION: Minor Technical

DESCRIPTION:

An example of a conformance class annex would be useful. Also, there is nothing stated here about how this annex should be created/documented.

ISSUE NUMBER UK-ATS2-27

AUTHOR: Julian Fowler

CLAUSE: Annex D

CLASSIFICATION: Minor Technical

DESCRIPTION:

Given that this Annex (clause in the SDs) includes lengthy boiler-plate text, it would be useful to developers to have this available in electronic form.

PROPOSED RESOLUTION:

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Create a location on SOLIS to hold this information. Add a URL referencing it.

ISSUE NUMBER UK-ATS2-28

AUTHOR: Julian Fowler

CLAUSE: D.2

CLASSIFICATION: Minor Technical

DESCRIPTION:

The stated requirements for the TOC contradicts IDP3/SDs.

PROPOSED RESOLUTION:

Defined terms shall not appear in the TOC. Otherwise, the depth of the TOC shall be consistent for normative clauses - this should be 3.

ISSUE NUMBER UK-ATS2-29

AUTHOR: Julian Fowler

CLAUSE: D.2

CLASSIFICATION: Editorial

DESCRIPTION:

Title of clause 2 is incorrect as listed in the sample TOC.

PROPOSED RESOLUTION:

Make consistent with the SDs.

ISSUE NUMBER UK-ATS2-30

AUTHOR: Julian Fowler

CLAUSE: Annex D

CLASSIFICATION: Minor Technical

DESCRIPTION:

Are there any requirements for the Foreword of an ATS?

ISSUE NUMBER UK-ATS2-31

AUTHOR: Julian Fowler

CLAUSE: Annex D

CLASSIFICATION: Minor Technical

DESCRIPTION:

Are there requirements/options for project-supplied (non boilerplate) text in the Foreword or the Introduction of an ATS?

ISSUE NUMBER UK-ATS2-32

AUTHOR: Julian Fowler

CLAUSE: D.5

CLASSIFICATION: Editorial

DESCRIPTION:

Clause 3 of the ATS cannot reference "the exact version" of the AP. It will either be "to be published" (not yet published as IS), or a dated IS reference to which amendments/technical corrigenda could apply.

PROPOSED RESOLUTION:

Change the requirements, such that if the AP is not yet an IS, the normative references follows the required "to be published" form, with a reference to a specific (N-numbered) version in the Bibliography.

ISSUE NUMBER UK-ATS2-33

AUTHOR: Julian Fowler

CLAUSE: D.7.1, D.7.2

CLASSIFICATION: Editorial

DESCRIPTION:

Remove "implicitly" from boilerplate text for 4.1 and 4.2,

ISSUE NUMBER UK-ATS2-34

AUTHOR: Julian Fowler

CLAUSE: D.10.3

CLASSIFICATION: Editorial

DESCRIPTION:

Format of URL should be aligned with similar requirements for other parts, i.e., using ISO 690-2.

ISSUE NUMBER UK-ATS2-35

AUTHOR: Julian Fowler

CLAUSE: Bibliography

CLASSIFICATION: Editorial

DESCRIPTION:

Entries in the Bibliography should be numbered. First two entries are incomplete (should be worded and formatted as per requirements for normative references). Third and fourth references are outdated and can be

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deleted. What is the relevance of the last two entries - are there WG6 N-numbers for these? If they are relevant but don't have N-numbers, these should be added to the QC document log and published on SOLIS.

ISSUE NUMBER UK-ATS2-36

AUTHOR: Julian Fowler

CLAUSE: n/a

CLASSIFICATION: Editorial

DESCRIPTION:

There is no Index

PROPOSED RESOLUTION:

Add one!

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